

**IN THE CLAIMS:**

Please rewrite claims as follows:

1. (Amended) A method for interpolating an original picture in a frame unit  
(a binary picture: BAB) by using a context probability table set previously in order to reconstruct the original picture in the frame unit having low resolution as the picture having high resolution through an up-sampling, said method comprising the steps of:  
dividing said original picture in the frame unit into a plurality of blocks (each having a size of 8 x 8 pixels);  
extending each of said plurality of blocks divided to a double size;  
forming a context template for an interpolating pixel in each of the extended blocks;  
getting indexes of the context template to obtain a probability value indicating whether or not a pixel value is detected and obtaining the probability value of the interpolating pixel from the context probability table set previously by a use of the indexes of the context template obtained; and  
deciding the interpolating pixel value ('0' or '1') based on the context probability value obtained of the interpolating pixel.

Please cancel Claims 2 and 3 without prejudice.

2. (Once Amended) The method of claim 29, wherein said bordering step comprises the steps of:

copying the uppermost row of the extended block and thereby forming a top border in case that the extended block is positioned on the frame top side border of the

original picture in the frame unit, and copying the values of pixels positioned on the right or left side for unknown pixels on said top border;

constructing a left border by using the leftmost column of the extended block in case that said extended block is positioned on the frame left side border of the original picture in the frame unit, and copying the values of pixels positioned on the upper or lower side for unknown pixels on said left border; and

forming the top border with the lowermost row of upper adjacent block and the left border with the rightmost column of left block neighboring to the extended block, in case that said extended block is not positioned on the frame border of the original picture in the frame unit.

2. (Once Amended) The method of claim 1, wherein the context template forming step constructs the context template for a part having no pixels by copying neighboring pixels or determining a voluntary value, in case that the context template is constructed for pixels of 16 columns or 16 rows.

3. (Once Amended) The method of claim 1, wherein the block extending step comprises the steps of: interpolating pixels horizontally by using a horizontal context template; and after the horizontal interpolation, interpolating pixels vertically by using a vertical context template.

Please cancel Claims 11 to 14 without prejudice.

4. (Once Amended) The apparatus of claim 2, wherein said bordering means copies 1 column and 1 row of each of the divided blocks on the left and upper side of the divided blocks, respectively and performs the boarding for the divided blocks, in case that

the blocks divided in said block dividing means exist on the outermost of the original picture in the frame unit.

10 20. (Once Amended) The apparatus of claim 24, wherein said copy means borders a divided block with pixel values in 8 rows of its left and top block if the divided block exists on the top and left side of the block to be bordered divided in said block dividing means, and borders the divided block with a value "0" if the divided block does not exist on the top and left side thereof.

11 21. (Once Amended) The apparatus of claim 24, wherein said probability detecting means compares the probability value read and gotten from said probability table referring means with 0.5; controls so that said interior/exterior interpolation means interpolates a value "1" for the respective pixels on the bordered block, in case the probability value is more than 0.5; and controls so that said interior/exterior interpolation means interpolates a value "0" for the respective pixels on the bordered block, in case the probability value is less than 0.5.

Please cancel Claim 22 without prejudice.

4 24. (Once Amended) An apparatus having block dividing means, bordering means, and horizontal and vertical interpolation means and for interpolating an original picture in a frame unit (a binary picture: BAB) by using a context probability table set previously in order to reconstruct the original picture in the frame unit having low resolution as the picture having high resolution through an up-sampling, said apparatus comprising:

said bordering means being composed of block position detecting means for detecting a position of each of the divided blocks from said block dividing means in the

original picture in the frame unit, copy means for receiving the position of the divided block outputted from said block position detection means and bordering the block of a given size on the top, left and upper side and left side of the block to be bordered, and memory for storing the blocks bordered from said copy means and outputting the information on the neighboring blocks of the block to be bordered to said copy means; and

said horizontal and vertical interpolation means being composed of context calculating means for receiving the bordered blocks in said bordering means and calculating context indexes for respective pixels of the bordered blocks, probability table referring means for receiving the context indexes from said context calculating means and reading and getting probability values corresponding to the index on/from the context probability table set previously, probability detecting means for detecting whether or not the probability value read and gotten on/from said probability table referring means is more than 0.5, and interior/exterior interpolation means for interpolating a value "0" or "1" for the respective pixels on the bordered block in response to the detection result signal of said probability detecting means.

*15  
5/9/01*  
Please cancel Claims 25 to 29 without prejudice. *28*

Please add the following Claim 30.

*R12K*  
*RJL* 4. (New) The method of claim 1, further comprising the steps of: comparing the extended block with the original picture in the frame unit and detecting the position of the block; and selectively bordering said plurality of blocks based on the detected position.